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# 1. Base Fibonacci

**Program Name: Base.java**

**Input File: base.dat**

The Fibonacci series is obtained by starting with 1 and 2 and subsequent terms in the series are obtained by adding the previous two terms.

n	0	1	2	3	4	5	6	7	8	9
Fib(n)	1	2	3	5	8	13	21	34	55	89

In the above table the Fibonacci series is represented by the row Fib(n). There are many applications of the Fibonacci series both in mathematics and in the real world. For example, we can represent any positive integer as the sum of the terms in the Fibonacci series without repetition. For a unique representation, you may not take two successive terms in the Fibonacci series.

## Input

The input is a sequence of lines, each having a single positive number N ( $0 < N < 1000$ ).

## Output

For each value of N, you will print the Fibonacci terms that add up to it. The Fibonacci terms should be in descending order and you may not use two successive terms in the Fibonacci series. If the value of N is a Fibonacci number there is no solution with 2 or more non-successive terms so just print  $N = N$  where N is the Fibonacci number.

17 = 13 + 3 + 1 (correct)

17 = 8 + 5 + 3 + 1 (incorrect)

## Example Input File

16

29

53

55

## Example Output to Screen

16 = 13 + 3

29 = 21 + 8

53 = 34 + 13 + 5 + 1

55 = 55